AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A method of forming a polygon image, comprising the steps of:

obtaining a plurality of polygons having normal line data as apex data and constituting a model;

sorting the plurality of polygons into polygons of a first color part and polygons of a second color part along a boundary line <u>between said first and second color parts,</u> according to the direction of a light source and normal lines of the plurality of polygons;

dividing polygons intersecting the boundary line along the boundary line;

sorting the divided polygons into polygons of the first color part and polygons of the second color part along the boundary line according to the direction of a light source and normal lines of the divided polygons; and

pasting up the first mono-color texture on the polygons belonging to the first color part, and the second mono-color texture on the polygons belonging to the second color part.

Claim 2 (canceled)

Claim 3 (currently amended): <u>A</u> ~~The~~ method of forming a polygon image ~~according to claim 10,~~ comprising the steps of:

<u>obtaining a plurality of polygons having normal line data as apex data and constituting a model;</u>

<u>sorting the plurality of polygons into polygons of a first color part and polygons of a second color part along a boundary line according to the direction of a light source and normal lines of the plurality of polygons;</u>

dividing polygons intersecting the boundary line along the boundary line;

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sorting the divided polygons into polygons of the first color part and polygons of the second color part along the boundary line according to the direction of a light source and normal lines of the divided polygons;

pasting up the first mono-color texture on the polygons belonging to the first color part, and the second mono-color texture on the polygons belonging to the second color part; and

acquiring inner product values of the direction of a light source and normal lines of the divided polygons, wherein the polygons intersecting the boundary line are determined as polygons having different polarities of the acquired inner product values;

wherein intersectional position of a side line of a polygon intersecting the boundary line is acquired from a proportional relation with the inner product values of two apexes of the side line of the polygon intersecting the boundary lines when the inner product value is at the intersectional position is set "0".

Claim 4 (currently amended): An image processing apparatus comprising:

control means for obtaining a plurality of polygons having normal lines as apex data and constituting a model, sorting the plurality of polygons into polygons of a first color part and polygons of a second color part along a boundary line between said first and second color parts, according to the direction of a light source and normal lines of the divided polygons,

dividing polygons intersecting the boundary line along the boundary line, and

sorting the divided polygons into polygons of the first color part and polygons of the second color part along the boundary line according to the direction of a light source and normal lines of the divided polygons; and

a rendering processor for pasting up the first mono-color texture on the polygons belonging to the first color, part and the second mono-color texture on the polygons belonging to the second color part.

Claim 5 (canceled)

Claim 6 (currently amended): The image processing apparatus ~~according to claim 11~~ comprising:

control means for obtaining a plurality of polygons having normal lines as apex data and constituting a model, sorting the plurality of polygons into polygons of a first color part and polygons of a second color part along a boundary line according to the direction of a light source and normal lines of the divided polygons,

dividing polygons intersecting the boundary line along the boundary line, and

sorting the divided polygons into polygons of the first color part and polygons of the second color part along the boundary line according to the direction of a light source and normal lines of the divided polygons; and

a rendering processor for pasting up the first mono-color texture on the polygons belonging to the first color, part and the second mono-color texture on the polygons belonging to the second color part;

wherein

the control means acquires inner product values of the direction of a light source and normal lines of the divided polygon, wherein the polygons intersecting the boundary line are determined as polygons having different polarities of the acquired inner product values; and

intersectional position of a side line of a polygon intersecting the boundary line is acquired from a proportional relation with the inner product values of two apexes of

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the side line of the polygon when the inner product at the intersectional position is set "0".

Claim 7 (currently amended): A record medium storing a program which is executed by control means in an image processing apparatus, the program providing a control which comprises the steps of:

obtaining a plurality of polygons having normal lines as apex data and constituting a model;

sorting the plurality of polygons into polygons of a first color part and polygons of a second color part along a boundary line <u>between said first and second color parts,</u> according to the direction of a light source and normal lines of the plurality of polygons;

dividing polygons intersecting the boundary line along the boundary line;

sorting the divided polygons into polygons of the first color part and polygons of the second color part along the boundary line according to the direction of a light source and normal lines of the divided polygons; and

pasting up the first mono-color texture on the polygons belonging to the first color part and the second mono-color texture on the polygons belonging to the second color part.

Claim 8 (canceled)

Claim 9 (currently amended): <u>A</u> ~~The~~ record medium having stored therein the program ~~according to claim 12~~ <u>which is executed by control means in an image processing apparatus, the program providing a control which comprises the steps of:</u>

<u>obtaining a plurality of polygons having normal lines as apex data and constituting a model;</u>

sorting the plurality of polygons into polygons of a first color part and polygons of a second color part along a boundary line according to the direction of a light source and normal lines of the plurality of polygons;

dividing polygons intersecting the boundary line along the boundary line;

sorting the divided polygons into polygons of the first color part and polygons of the second color part along the boundary line according to the direction of a light source and normal lines of the divided polygons; and

pasting up the first mono-color texture on the polygons belonging to the first color part and the second mono-color texture on the polygons belonging to the second color part;

wherein the control provided by the program stored in the record medium further comprises the step of acquiring inner product values of the direction of a light source and normal lines of the divided polygons, and wherein the polygons intersecting the boundary line are determined as polygons having different polarities of the acquired inner product values;

wherein intersectional position of a side of a polygon intersecting the boundary line is acquired from a proportional relation with the inner product values of two apexes of side line of the polygon when the inner product value at the intersectional position is set "0".

Claim 10 (previously presented): The method of forming a polygon image according to claim 1, further comprising the step of acquiring inner product values of the direction of a light source and normal lines of the divided polygons, wherein the polygons intersecting the boundary line are determined as polygons having different polarities of the acquired inner product values.

Claim 11 (previously presented): The imaging processing apparatus according to claim 4, wherein the control means acquires inner product values of the direction of a light source and normal lines of the divided polygon, wherein the polygons intersecting the boundary

line are determined as polygons having different polarities of the acquired inner product values.

Claim 12 (previously presented): The record medium according to claim 7, wherein the control provided by the program stored in the record medium further comprises the step of acquiring inner product values of the direction of a light source and normal lines of the divided polygons, and wherein the polygons intersecting the boundary line are determined as polygons having different polarities of the acquired inner product values.